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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,709	10/29/2003	Volker Formanski	8540G-000193	5556
27572 7590 04/06/2007 HARNESSE, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER MERCADO, JULIAN A	
			ART UNIT	PAPER NUMBER
			1745	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/06/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/695,709

Applicant(s)

FORMANSKI ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-11,13-19,21-27 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5-10,13-19,21-26 and 29-32 is/are allowed.
- 6) ☒ Claim(s) 3,11 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed on November 20, 2006 and December 21, 2006.

Claims 1-3, 5-11, 13-19, 21-27 and 29-32 are pending.

This Office action is made NON-FINAL in order to more properly cite the appropriate paragraph of 35 U.S.C. 102.

Claim Rejections - 35 USC § 112

The rejection of claim 24 under 35 U.S.C. 112, second paragraph has been withdrawn.

Claim Rejections - 35 USC § 102 and 103

The rejection of claims 1, 2, 6, 9, 10, 13, 14, 17-19, 22 and 25-30 under 35 U.S.C. 102(b) based on Buswell et al. (U.S. Pat. 5,360,679) has been withdrawn.

The rejection of claims 7, 8, 15, 16, 23, 24, 31 and 32 under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) based on Buswell et al. has been withdrawn.

Claims 1, 2, 6-9, 10, 13, 17-19, 22, 27 and 28 are allowed for the reasons set forth in the prior Office action.

For claims 25, 26 and 29-32, this rejection is withdrawn as the examiner concedes with applicant's assertion that in Buswell et al., the "system is continuous from the first stage 130 compressor to the second stage 134 compressor...." To this extent, while Buswell et al. does

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disclose that a “small amount of the pressurized air stream 18 exiting the second stage 134 of the two-stage turbocompressor is diverted...” (col. 7 line 2 et seq.), the step of circumvention occurs *downstream* of the second stage compressor, thus, a step of circumventing of the second stage compressor itself is not taught or suggested by the prior art.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 11 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Buswell et al. (U.S. Pat. 5,360,679)

The rejection is maintained for the reasons of record and for the additional reasons to follow in reply to applicant’s amendment and salient arguments presented therewith.

For claims 3 and 11, the examiner notes that claim 3 has been amended by rewriting claim 3 in independent form including the limitations of base claim 1 and intervening claim 2, while claim 11 has been amended to include the limitations of originally filed independent claim 9 and claim 10. Claim 27 is the method analogue and has been rewritten to incorporate the limitations of independent claim 25 and intervening claim 26.

Applicant’s arguments filed with the present amendment have been fully considered, however they are not found persuasive. Applicant submits that “[t]he compressor intercooler 132, located between the first stage 130 to the second stage 134, does not transfer heat between the pressurized air stream 16 to an exhaust stream....” In reply, the examiner maintains that

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Buswell et al. teaches a first stage compressor [130] and a second stage compressor [132]¹, where a first heat exchanger [138] enables heat transfer between the second pressurized air stream and the exhaust stream to heat said exhaust stream. In col. 10 lines 17-21, the air stream [19] is specifically disclosed as being cooled while the exhaust stream is heated to 319° F.

The exhaust stream 26 exits cathode precoolers 138 at a temperature of approximately 319° F., simultaneously cooling the air stream 19 of the air pressurization subsystem 116 directed through the cathode precoolers 138.

As to the argument that Buswell et al. does not teach a second heat exchanger disposed between the first stage compressor and the second stage compressor, the examiner maintains that the second heat exchanger [132] is disposed between the first stage compressor and the second stage compressor. See Figure 2 in its lower-left corner, where from top-to-bottom the arrangement is shown as second stage compressor [134] / second heat exchanger [132] / first stage compressor [130].

Allowable Subject Matter

Claims 1, 2, 5-10, 13-19, 21-26 and 29-32 allowed for the reasons of record.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

¹ The prior Office action had cited the first stage compressor as [130] and the second stage compressor also as [130]. The cited portion relied upon, however, clearly discloses a "first stage 130" and a "second stage 134". Furthermore, the prior Office action relied upon reference character [132] in Buswell et al. as being readable on the claimed second heat exchanger and not either of the first or second stage compressors.

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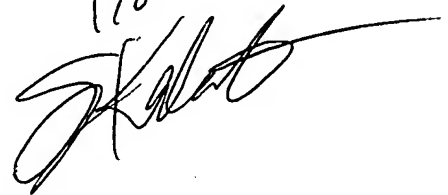
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be "J. Ryan", located on the left side of the page.

STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1700

A handwritten signature in black ink, appearing to be "S. Kalafut", located on the right side of the page, below the printed name.